

What is claimed is:

### CLAIMS

1. A method for displaying advertisements transmitted to a user unit,  
5 the method comprising:  
receiving, at the user unit, at least one advertisement tagged with a  
delay tag indicating whether display of the at least one advertisement can be  
delayed; and  
only if said delay tag allows delaying display of said at least one  
10 advertisement:  
storing said at least one advertisement at the user unit;  
retrieving said at least one advertisement; and  
displaying said at least one advertisement.
- 15 2. The method according to claim 1 and also comprising:  
displaying said at least one advertisement without delay if said  
delay tag does not allow delaying display of said at least one advertisement.
3. The method according to claim 1 or claim 2 and wherein said delay  
20 tag also indicates whether a user of the user unit can control display of said at least  
one advertisement, and said displaying comprises:  
only if said delay tag indicates that the user can control display of  
said at least one advertisement:  
retrieving said at least one advertisement in response to a  
25 selection made by the user; and  
displaying said at least one advertisement.
4. The method according to any of the above claims and wherein said  
delay tag also indicates a maximum allowed delay time period for displaying said  
30 at least one advertisement, and said displaying comprises:

displaying said at least one advertisement after said maximum allowed delay time period elapses if said at least one advertisement had not been displayed before said maximum allowed delay time period elapsed.

- 5 5. The method according to any of the above claims and wherein said delay tag also indicates a non-advertising programming (NAP) threshold defining a maximum amount of NAP that may be displayed before the at least one advertisement must be displayed, and said displaying comprises:

determining an amount of NAP that has already been displayed; and  
10 displaying said at least one advertisement without delay if said amount of NAP that has already been displayed is greater than or equal to the NAP threshold.

6. The method according to claim 5 and wherein said amount of NAP  
15 is defined by an accumulated time of display of NAP.

7. The method according to any of the above claims and wherein said delay tag is assigned a guaranteed delivery attribute that forces the at least one advertisement to be displayed eventually.

- 20 8. The method according to claim 7 and wherein said delay tag is assigned the guaranteed delivery attribute in response to a payment for assigning the guaranteed delivery attribute.

- 25 9. A method for displaying advertisements transmitted to a user unit, the method comprising:

receiving, at the user unit, at least one advertisement tagged with a tag indicating a non-advertising programming (NAP) threshold which defines a maximum amount of NAP that may be displayed before the at least one  
30 advertisement must be displayed;

determining an amount of NAP that has already been displayed at the user unit; and

displaying said at least one advertisement without delay if said amount of NAP that has already been displayed at the user unit is greater than or equal to the NAP threshold.

5 10. The method according to claim 9 and wherein said amount of NAP is defined by an accumulated time of display of NAP.

11. The method according to claim 9 and wherein the NAP comprises a plurality of categorized NAP elements  $NAP_1, \dots, NAP_n$  having  $n$  separate weight factors where  $n$  is an index, and said amount of NAP is defined by a weighted sum of time of display of all the categorized NAP elements  $NAP_1, \dots, NAP_n$ .  
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12. The method according to claim 11 and wherein each of the plurality of categorized NAP elements  $NAP_1, \dots, NAP_n$  is associated with a service-level determining a quality-of-service (QoS).  
15

13. The method according to claim 11 and wherein each weight factor  $i$  in the  $n$  separate weight factors is inversely related to an amount of payment for a corresponding  $NAP_i$ .  
20

14. The method according to claim 11 and wherein each weight factor  $i$  in the  $n$  separate weight factors is inversely proportional to an amount of payment for a corresponding  $NAP_i$ .

25 15. The method according to any of claims 9 - 14 and wherein the amount of NAP is directly related to a number of viewing points that are accumulated by a user viewing the NAP.

16. The method according to any of claims 9 - 15 and wherein said displaying comprises:  
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determining that said at least one advertisement is currently at the top of a play-list queue of advertisements to be displayed; and

displaying said at least one advertisement without delay in accordance with a result of said determining.

17. A method for displaying advertisements transmitted to a user unit,  
5 the method comprising:

receiving, at the user unit, at least one advertisement associated with at least one alternative advertisement, the at least one advertisement being tagged with a replacement tag indicating whether a user of the user unit is allowed to replace displaying of the at least one advertisement by displaying of said at least  
10 one alternative advertisement; and

displaying one of said at least one advertisement and said at least one alternative advertisement in accordance with a value of said replacement tag and a selection of the user.

18. The method according to claim 17 and also comprising, prior to said displaying:

determining that said at least one advertisement and said at least one alternative advertisement are not competing advertisements; and

performing said displaying based, at least in part, on a result of said  
20 determining.

19. The method according to claim 17 or claim 18 and wherein said replacement tag also provides an archiving indication indicating which one of said at least one advertisement and said at least one alternative advertisement is to be  
25 archived, and the method also comprises:

archiving one of said at least one advertisement and said at least one alternative advertisement based on said archiving indication.

20. The method according to claim 19 and wherein said archiving  
30 comprises archiving one of said at least one advertisement and said at least one alternative advertisement in response to payment by an advertiser of a

corresponding one of said at least one advertisement and said at least one alternative advertisement.

21. A method for enabling a first user to transmit a recommendation of a transmitted program to a second user via a communication network, the method comprising:

opening an electronic message form on a display, said electronic message form including an identification of said transmitted program if said transmitted program is at least one of the following: highlighted; marked; and viewed by the first user;

filling in said electronic message form to form a recommendation message, said filling in including filling in at least identification details of the second user;

transmitting, via said communication network, said electronic message form to a headend of the communication network;

processing, at the headend, the electronic form to match said identification details of the second user with valid subscriber details; and

forwarding the recommendation message to the second user in response to a positive match of said identification details of the second user with valid subscriber details.

22. The method according to claim 21 and wherein said filling in also comprises filling in authorization data authorizing the headend to bill the first user for the second user viewing the transmitted program in response to the recommendation message.

23. A method according to claim 22 and wherein said authorization data comprises a selection of a method of payment.

24. A method according to claim 23 and wherein said method of payment comprises one of the following: payment from a bank account; payment by a credit card; and payment by debiting a smart card.

25. The method according to any of claims 21 - 24 and wherein said filling in also comprises filling in program related information comprising at least one of the following: a title of the transmitted program; an identification of a recommended episode; a date and a time of creation of said recommendation message; parental rating of the transmitted program; and a viewing rating assigned to the transmitted program by the first user.
26. The method according to any of claims 21 - 25 and wherein said transmitted program comprises an advertisement.
27. The method according to any of claims 21 - 26 and wherein said processing comprises verifying an entitlement of the first user to provide said recommendation message to the second user.
28. The method according to claim 27 and wherein said verifying is performed at at least one of the following: the headend; a removable security element at a user unit operated by the first user; and a removable security element at a user unit operated by the second user.
29. The method according to claim 28 and wherein at least one of the removable security elements comprises a smart card.
30. The method according to any of claims 21 - 29 and wherein said processing comprises verifying an entitlement of the second user to receive said recommendation message from the first user.
31. The method according to any of claims 21 - 30 and also comprising attaching a video clip message to the recommendation message prior to said transmitting said electronic message form to the headend.

32. The method according to any of claims 21 - 31 and also comprising assigning the transmitted program a high viewing priority for the second user in response to said forwarding the recommendation message to the second user.

5 33. The method according to claim 32 and wherein the high viewing priority comprises a highest viewing priority.

34. A method according to any of claims 21 - 33 and wherein said forwarding comprises:

10 transmitting the recommendation message to the second user if the second user is served by the headend; and

transmitting the recommendation message to an information service provider that serves the second user if the second user is not served by the headend.

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35. A method according to any of claims 21 - 34 and also comprising enabling the second user to block reception of the recommendation message.

36. A payment method for a pay television system, the method  
20 comprising:

billing a user by a sum of money which is calculated by subtracting, from a predetermined price for a program, a result of a substitution of an actual duration-of-display of advertisements associated with the program in a predetermined arithmetic function that correlates said predetermined price for the  
25 program to a predetermined duration-of-display of advertisements associated with the program.

37. A method for counteracting replacement of advertisements for an item offered by a plurality of vendors, the method comprising:

30 associating a frame displaying said item with a tag indicating a valid vendor; and

preventing replacement of said item by other than the valid vendor.

38. The method according to claim 37 and also comprising, prior to said associating, encrypting said tag.

5 39. A method for replacing advertisements for an item offered by a plurality of vendors, the method comprising:

displaying an advertisement of the item associated with a selection icon associated with a leading vendor from among the plurality of vendors;

displaying offers to purchase said item by said leading vendor and  
10 by vendors from said plurality of vendors other than the leading vendor upon selection of the selection icon; and

compensating the leading vendor for a purchase of the item from a vendor other than the leading vendor.

15 40. A method according to claim 39 and wherein said compensating comprises at least one of the following: crediting an account of the leading vendor; and crediting an amount of advertisements of the leading vendor.

41. A personal advertisement method for enabling a user to transmit an  
20 advertisement message to a targeted audience, the method comprising:

creating an advertisement message;

associating the advertisement message with parameters determining the targeted audience;

transmitting said advertisement message associated with said  
25 parameters determining the targeted audience to a headend;

processing, at the headend, the advertisement message and the parameters determining the targeted audience to create an advertisement transmission program scheduled for broadcast to the targeted audience; and

broadcasting the advertisement program to the targeted audience.

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42. The method according to claim 41 and also comprising:



associating the advertisement message with parameters determining at least one of the following: an expiration date of the advertisement message; a delivery mode determining a priority of broadcast of the advertisement transmission program; and a method of payment for broadcasting the advertisement transmission program.

43. The method according to claim 41 or claim 42 and wherein said parameters determining the targeted audience comprise at least one of the following: an age group of viewers; residence areas of viewers; a pre-specified field of interest of viewers; an income level of viewers; gender of viewers; and types of programs being watched by viewers.

44. The method according to claim 42 and wherein said method of payment comprises one of the following: payment from a bank account; payment by a credit card; and payment by debiting a debit card.

45. The method according to claim 44 and wherein the debit card comprises a smart card.

46. A method for detecting a broadcast commercial in a broadcast digital stream, the method comprising:

detecting indicia in metadata added to the broadcast digital stream, said indicia indicating at least one of the following: a start point of the commercial; an end point of the commercial; and a presence point within the commercial.

47. A method for detecting a broadcast commercial in a broadcast digital stream, the method comprising:

performing an analysis on content of the broadcast digital stream to detect parameters characterizing the commercial.

48. A method according to claim 47 and wherein said parameters comprise at least one of the following: an indication of a sequence of a length typical to a broadcast commercial; an indication of a repetition of a sequence of a length typical to a broadcast commercial; an indication of a sequence of a length typical to a broadcast commercial at predetermined times known to be likely to include commercial breaks; an indication of a sequence of a length typical to a broadcast commercial between program events; and an indication of a sequence of a length typical to a broadcast commercial within a program event.

49. A method for detecting a broadcast commercial in a broadcast digital stream, the method comprising:

performing an analysis on a user behavior during display of the broadcast digital stream to detect behavior characteristics associated with user behavior during display of commercials.

50. A method for storing a broadcast commercial for future display to a user, the method comprising:

determining whether to store the broadcast commercial based upon at least one of the following: a predetermined preference of the user for an item being advertised in the commercial; a previous purchase of an item being advertised in the commercial; and correspondence of at least one characteristic associated with the commercial to user profile information; and

storing the broadcast commercial in response to a result of said determining.

51. A method for displaying a stored broadcast commercial to a user, the method comprising:

determining whether to display the broadcast commercial based upon at least one of the following: metadata associated with content displayed to the user which indicates when a potential commercial occurs; a required frequency of a commercial break; a time of day; a time window during which the broadcast

commercial is valid; analysis of an event; a request of the user; and an indication of the user that he has viewed enough; and

displaying the broadcast commercial in response to a result of said determining.

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52. A method for selecting a stored broadcast commercial for displaying to a user, the method comprising:

determining whether to select the broadcast commercial based upon at least one of the following: a number of times the commercial has already been displayed to the user; a number of times other commercials advertising the same item advertised by the commercial have already been displayed to the user; a type of product advertised in the commercial; an event currently being viewed; an offer induced by metadata; a relation to other commercials; a predetermined date; and position in a sequence of teaser commercials; and

selecting the commercial for displaying to the user in response to a result of said determining.

53. A method for protecting metadata added to a broadcast digital stream, the method comprising:

encrypting the metadata prior to broadcast to users; and  
enabling decrypting of the metadata in response to performance of an authorization procedure.

54. The method according to claim 53 and wherein said authorization procedure comprises at least one of the following: an authentication procedure authenticating a transmitting entity; and a co-dependency procedure correlating the metadata to content.

55. A billing method associated with a broadcast commercial broadcast to a multiplicity of users, the method comprising:

receiving reports corresponding to the commercial from at least some of the plurality of users; and

performing at least one of the following in response to said receiving: crediting said at least some of the plurality of users by an amount of credit; and charging an advertiser of the commercial by an amount of charge.

5 56. The method according to claim 55 and wherein the amount of credit comprises a predetermined amount of credit.

57. The method according to claim 56 and wherein the predetermined amount of credit comprises a fixed amount of credit.

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58. The method according to any of claims 55 - 57 and wherein the amount of charge is proportional to a number of the reports.

59. A method for enabling a user to search advertisements transmitted  
15 to a user unit, the method comprising:

receiving, at the user unit, a plurality of advertisements including at least a sub-group of advertisements in which each advertisement is associated with an advertisement category tag categorizing the advertisement according to types of items advertised in the advertisement; and

20 displaying, in response to a selection made by the user when viewing at least one advertisement from said sub-group of advertisements, identification elements of all advertisements in the sub-group, each identification element in the sub-group enabling the user to select an advertisement associated therewith.

25

60. The method according to claim 59 and wherein said displaying comprises simultaneously displaying the identification elements of at least some of the advertisements in the sub-group.

30 61. The method according to claim 59 or claim 60 and wherein each identification element comprises at least one of the following: an icon identifying an advertisement in the sub-group; an index identifying an advertisement in the

sub-group; a code identifying an advertisement in the sub-group; an image from an advertisement in the sub-group; and a video clip of an advertisement in the sub-group.

5 62. The method according to any of claims 59 - 61 and wherein said identification elements are arranged in a mosaic display.

63. A method for purchasing an item via a communication network, the item being offered by a plurality of vendors and advertised in advertisements  
10 provided by the plurality of vendors, the method comprising:

determining one of the plurality of vendors as a leading vendor in response to a payment by the leading vendor;

displaying the advertisements of the item and an offer to purchase the item from the leading vendor; and

15 enabling users to purchase the item via the communication network only from the leading vendor.

64. A method for deleting a stored broadcast commercial, the method comprising:

20 determining whether to delete the broadcast commercial based upon at least one of the following:

a pre-determined elapsed time period of the broadcast commercial;

25 a number of times the broadcast commercial has been displayed;

in response to receipt of an erase signal;

a request of a user not to present commercials of a particular vendor; and

30 a payment made to prevent the stored broadcast commercial from being deleted; and

deleting the broadcast commercial in response to a result of said determining.

65. The method according to claim 64 and wherein said deleting comprises transmitting a delete trigger signal in a secure mode.

5 66. A user unit for displaying transmitted advertisements, the user unit comprising:

a receiver operative to receive at least one advertisement tagged with a delay tag indicating whether display of the at least one advertisement can be delayed;

10 a memory;

a display; and

a controller operatively associated with said receiver, said memory and said display and operative to store said at least one advertisement in said memory only if said delay tag allows delaying display of said at least one  
15 advertisement, and to retrieve said at least one advertisement from said memory for displaying said at least one advertisement on the display.

67. A user unit for displaying transmitted advertisements, the user unit comprising:

20 a receiver operative to receive at least one advertisement tagged with a tag indicating a non-advertising programming (NAP) threshold which defines a maximum amount of NAP that may be displayed on a display before the at least one advertisement must be displayed; and

a controller operatively associated with the receiver and operative to  
25 determine an amount of NAP that has already been displayed, and to provide said at least one advertisement without delay to the display for display thereby if said amount of NAP that has already been displayed is greater than or equal to the NAP threshold.

30 68. A user unit for displaying transmitted advertisements, the user unit comprising:

a receiver for receiving at least one advertisement associated with at least one alternative advertisement, the at least one advertisement being tagged with a replacement tag indicating whether a user of the user unit is allowed to replace displaying of the at least one advertisement by displaying of said at least one alternative advertisement; and

a controller operatively associated with said receiver and operative to provide one of said at least one advertisement and said at least one alternative advertisement to a display for display thereby in accordance with a value of said replacement tag and a selection of the user.

69. A user unit for enabling a first user to transmit a recommendation of a transmitted program to a second user via a communication network, the user unit comprising:

a processor operative to generate an electronic message form and to provide the electronic message form to an on-screen display (OSD) unit for display on a display, said electronic message form including an identification of said transmitted program if said transmitted program is at least one of the following: highlighted, marked, and viewed by the first user;

an input/output (I/O) interface operatively associated with the processor and operative to receive from the first user information filling in said electronic message form for producing a recommendation message, the information including at least identification details of the second user; and

a communication interface operatively associated with the processor and operative to transmit said electronic message form including said information to a headend of the communication network for forwarding by the headend to the second user in response to a positive match of said identification details of the second user with valid subscriber details.

70. A billing system in a pay television system, the billing system comprising:

a processor operative to calculate a sum of money by subtracting, from a predetermined price for a program, a result of a substitution of an actual

duration-of-display of advertisements associated with the program in a predetermined arithmetic function that correlates said predetermined price for the program to a predetermined duration-of-display of advertisements associated with the program; and

- 5                    accounting apparatus operatively associated with the processor and operative to bill the user by said sum of money.

71.            A transmission system for counteracting replacement of advertisements for an item offered by a plurality of vendors, the system  
10           comprising:

                 a multiplexer operative to associate a frame displaying said item with a tag indicating a valid vendor; and

                 a transmitter operatively associated with said multiplexer and operative to transmit said frame in association with said tag.

15           72.            A user unit for replacing advertisements for an item offered by a plurality of vendors, the user unit comprising:

                 a display; and

                 a processor operatively associated with the display and operative to  
20           display on the display an advertisement of the item associated with a selection icon associated with a leading vendor from among the plurality of vendors and offers to purchase said item by said leading vendor and by vendors from said plurality of vendors other than the leading vendor upon selection of the selection icon, and to compensate the leading vendor for a purchase of the item from a vendor other than  
25           the leading vendor.

73.            A user unit for enabling a user to transmit an advertisement message to a targeted audience, the user unit comprising:

                 an input/output (I/O) interface;

30           a processor operatively associated with the I/O interface and operative to create an advertisement message in response to input inputted via the



I/O interface and to associate the advertisement message with parameters determining the targeted audience; and

a communication interface operatively associated with the processor and operative to transmit said advertisement message associated with said parameters determining the targeted audience to a headend for creating an advertisement transmission program to be broadcast to the targeted audience and for broadcasting the advertisement program to the targeted audience.

74. A user unit for detecting a broadcast commercial in a broadcast digital stream, the user unit comprising:

a receiver operative to receive said broadcast digital stream including said broadcast commercial; and

a detector operatively associated with the receiver and operative to detect indicia in metadata added to the broadcast digital stream, said indicia indicating at least one of the following: a start point of the commercial; an end point of the commercial; and a presence point within the commercial.

75. A user unit for detecting a broadcast commercial in a broadcast digital stream, the user unit comprising:

a receiver operative to receive said broadcast digital stream including said broadcast commercial; and

a processor operatively associated with the receiver and operative to perform an analysis on content of the broadcast digital stream to detect parameters characterizing the commercial.

76. A user unit for detecting a broadcast commercial in a broadcast digital stream, the user unit comprising:

a receiver operative to receive said broadcast digital stream including said broadcast commercial; and

a processor operatively associated with the receiver and operative to perform an analysis on a user behavior during display of the broadcast digital

stream to detect behavior characteristics associated with user behavior during display of commercials.

77. Apparatus for storing a broadcast commercial for future display to a user, the apparatus comprising:

a processor operative to determine whether to store the broadcast commercial based upon at least one of the following: a predetermined preference of the user for an item being advertised in the commercial; a previous purchase of an item being advertised in the commercial; and correspondence of at least one characteristic associated with the commercial to user profile information; and

a memory operatively associated with the processor and operative to store the broadcast commercial in response to a determination to store the broadcast commercial which is provided by the processor.

78. Apparatus at a user unit that is operative to enable displaying of a stored broadcast commercial to a user, the apparatus comprising:

a processor operative to determine whether to display the broadcast commercial based upon at least one of the following: metadata associated with content displayed to the user which indicates when a potential commercial occurs; a required frequency of a commercial break; a time of day; a time window during which the broadcast commercial is valid; analysis of an event; a request of the user; and an indication of the user that he has viewed enough; and

an on-screen display (OSD) unit operatively associated with the processor and operative to provide the broadcast commercial to a display for displaying the broadcast commercial on the display in response to a determination to display the broadcast commercial which is provided by the processor.

79. Apparatus at a user unit that is operative to enable selection of a stored broadcast commercial for displaying to a user, the apparatus comprising:

a processor operative to determine whether to select the broadcast commercial based upon at least one of the following: a number of times the commercial has already been displayed to the user; a number of times other

commercials advertising the same item advertised by the commercial have already been displayed to the user; a type of product advertised in the commercial, an event currently being viewed; an offer induced by metadata; a relation to other commercials; a predetermined date; and position in a sequence of teaser  
5 commercials; and

retrieval apparatus operatively associated with the processor and operative to select the commercial for displaying to the user in response to a determination to select the broadcast commercial which is provided by the processor.

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80. Apparatus for protecting metadata added to a broadcast digital stream, the apparatus comprising:

an encryptor operative to encrypt the metadata to provide encrypted metadata prior to broadcast to users; and

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a processor operatively associated with the encryptor and operative to add authorization information to the encrypted metadata, wherein decryption of the metadata is enabled only in response to performance of an authorization procedure utilizing the authorization information.

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81. A billing system comprising:

a receiver operative to receive, from at least one user, reports corresponding to a commercial broadcast to a multiplicity of users; and

accounting apparatus operatively associated with the receiver and operative to perform at least one of the following in response to reception of said  
25 reports: crediting said at least one user by an amount of credit; and charging an advertiser of the commercial by an amount of charge.

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82. Apparatus at a user unit that is operative to enable a user to search advertisements transmitted to the user unit, the apparatus comprising:

a receiver operative to receive a plurality of advertisements including at least a sub-group of advertisements in which each advertisement is

associated with an advertisement category tag categorizing the advertisement according to types of items advertised in the advertisement; and

a display; and

a processor operatively associated with the display and the receiver

- 5 and operative to display on the display, in response to a selection made by the user when viewing at least one advertisement from said sub-group of advertisements, identification elements of all advertisements in the sub-group, each identification element in the sub-group enabling the user to select an advertisement associated therewith.

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83. A system for enabling purchase of an item via a communication network, the item being offered by a plurality of vendors and advertised in advertisements provided by the plurality of vendors, the system comprising:

- a receiver operative to receive the advertisements with a  
15 determination of one of the plurality of vendors as a leading vendor in response to a payment by the leading vendor; and

a processor operatively associated with the receiver and operative to display on a display the advertisements and an offer to purchase the item from the leading vendor while enabling users to purchase the item via the communication  
20 network only from the leading vendor.

84. Apparatus at a user unit that is operative to enable deletion of a stored broadcast commercial, the apparatus comprising:

a memory in which said broadcast commercial is stored; and

- 25 a processor operatively associated with the memory and operative to provide a determination whether to delete the broadcast commercial based upon at least one of the following:

a pre-determined elapsed time period of the broadcast commercial;

- 30 a number of times the broadcast commercial has been displayed;

in response to receipt of an erase signal;

a request of a user not to present commercials of a particular vendor; and

a payment made to prevent the stored broadcast commercial from being deleted, and to delete the broadcast commercial in response to said  
5 determination.

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